

REMARKS

Claims 1 and 16 have been amended. Claim 7 has been cancelled. No claims have been added. Hence, Claims 1-6, 8-11, 16-26, 31, and 33 are pending in this application.

FILED IDS STATEMENTS HAVE NOT BEEN ACKNOWLEDGED

The Applicants have filed an Information Disclosure Statement (IDS) on May 12, 2005 and June 3, 2005 ("the unacknowledged IDS statements"). However, the Applicants have not yet received an initialed form PTO-1449 acknowledging receipt and consideration of the unacknowledged IDS statements. Consequently, Applicants respectfully request receipt of an initiated form PTO-1449 for the unacknowledged IDS statements.

TELEPHONE INTERVIEW SUMMARY

The Applicants thank the Examiner for the interview conducted on July 7, 2006 and the informal telephone conversation on August 1, 2006. In the interview, the Examiner clarified the position of the Office Action in that (a) *Schleipfer* is alleged to teach a general purpose operating system and a special purpose operating system, (b) *Nilsen* is alleged to teach how a database server can be configured, and (c) this combination teaches generating a set of components of a special purpose operating system by removing one or more features of a general purpose operating system. The Applicants and the Examiner did not come to an agreement as to the patentability of independent Claims 1 and 16.

SUMMARY OF THE REJECTIONS

Claims 1, 3, 5-9, 11, 16-18, 20-24, 26, 31, and 33 have been rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over U.S. Patent Number 5,606,693 issued to Nilsen et al. ("*Nilsen*") in view of "The ServOS Kernal" written by Stefan Schleipfer ("*Schleipfer*").

Claims 4 and 19 have been rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over *Nilsen* in view of *Schleipfer* in view of U.S. Patent Number 5,627,994 issued to Levy et al. ("*Levy*").

The rejections are respectfully traversed.

CLAIM 16 IS PATENTABLE OVER THE CITED ART

Even if the cited art were to be properly combined, Claim 16 recites a combination of elements that are not disclosed, taught, or suggested by *Nilsen* or *Schleipfer*, either individually or in combination. Amended Claim 16 recites the following combination of elements:

“A method for constructing a database appliance, comprising:
installing, on a computer readable medium accessible to one or more processors, a database server;
generating a set of components of a special purpose operating system by removing one or more features of a general purpose operating system that are not required to provide a set of services required by the database server; and
installing, on the computer readable medium, the special purpose operating system;
wherein the set of components include some, but not all, components of the general purpose operating system;
wherein configuration of the special purpose operating system is dictated based on the set of services.” (emphasis added).

It is respectfully submitted that at least the above-bolded portion of amended Claim 16 is not disclosed, taught, or suggested by *Nilsen* or *Schleipfer*, either individually or in combination.

In rejecting Claims 1 and 16, the **Office Action failed to even refer to the subject matter of the above-bolded portion** corresponding to generating a set of components of a special purpose operating system by removing features of a general purpose operating system. Thus, the Office Action failed to explain how all the features of Claim 16 are taught or suggested by the cited art.

To address this issue, Applicants conducted an interview with the Examiner on July 7, 2006. During the interview, the Applicants asked the Examiner where the above-bolded element is taught by any cited reference. In the informal telephone conversation conducted on August 1, 2006, the Examiner clarified his position that (a) that *Schleipfer* teaches a general purpose operating system and a special purpose operating system, (b) that *Nilsen* (at col. 3, lines 50-65) teaches how a database server can be configured, and therefore (c) that the combination of *Schleipfer* and *Nilsen* teach “the set of components of the special purpose operating system are generated by removing one or more features of the general purpose

operating system that are not required to provide said set of services to the database server” as recited in Claim 16. However, although the Office Action asserted that *Nilsen* teaches an operating system, *Nilsen* fails to use the term “operating system”, let alone discuss the concept of a special purpose operating system.

Furthermore, in the informal telephone conversation, the Examiner cited col. 3, lines 50-65 of *Nilsen*, which states:

The central configuration controller 132, 134 **contains configuration data showing how many database servers are available and how they are to be accessed.** (For simplicity, all further references to the redundant controller will be to the assumed primary controller 132. If controller 132 fails, controller 134 would perform the indicated functions). The requestor workstation 104 generates a request 202 to begin logging data. **Controller 132 evaluates the request and responds 204** with the identification and access information for a primary database. 124 (DBSX) and a mirrored redundant database 126 (DBSY) to the workstation 104. **The controller assigns database servers** based on the type of request, the load on each of the servers, and priority information. **The controller 132 also maintains a record of information** about the type of request, and the start and end times for that logging request.

The Examiner emphasized the bolded portions above as teaching how a database server can be configured. However, the Applicants are not clear how the concept of a configurable database server teaches or suggests anything about “removing one or more features of a general purpose operating system that are not required to provide a set of services to the database server” as Claim 16 recites. **The database server mentioned in *Nilsen* can only correspond to the “database server” of Claim 16 and not to either a general purpose operating system or a special purpose operating system as recited in Claim 16.** Furthermore, even if the database server of *Nilsen* can be equated with the general purpose or special purpose operating system of Claim 16, **the cited portion of *Nilsen* still fails to teach or suggest how the database server is configured by controller 132.** The actions performed by controller 132 (which are bolded above) include: (a) containing configuration data, (b) evaluating a request, (c) responding to a request, (d) assigning database servers, and (e) maintaining a record of information. **These actions have nothing to do with configuring a database server.** Therefore, it is respectfully submitted that neither *Schleipfer* nor *Nilsen* discloses, teaches, or suggests the element of “generating a set of components of a special purpose operating system by removing one or more features of a

general purpose operating system that are not required to provide a set of services required by the database server.”

In a previous Office Action, the Examiner asserted that *Schleipfer* teaches the above-bolded feature on page 124, right hand column, 4th paragraph and the abstract of *Schleipfer*. However, the Applicants respectfully submit that the portion of *Schleipfer* cited on page 124 **lacks any teaching or suggestion of generating the set of components of a special purpose operating system by removing one or more features of a general purpose operating system**. The portion of page 124 of *Schleipfer* that may correspond to the 4th paragraph on the right hand column states:

Also, handling of some error cases is moved to the kernel. Examples are: The addressed server module is not loaded here, normal client calls an operation in the stopped state, or the server module provides no operation with the indicated opcode. In these cases, the kernel rejects the operation request, producing a response with an error code.

This communication interface makes programming easy: To the outside world, a server module looks like a programming language module exporting callable operations. Internally, there is no manager process, only the procedures that implement the operations. This interface also achieves the minimal number of context switches, one at operation invocation and one at operation return, leading to improved efficiency.

Instead of disclosing how components of the special purpose operating system are generated, these portions merely describe (a) how error handling may be performed by the kernel of the special purpose operating system, rather than by the server modules of *Schleipfer* and (b) how the communication interface improves programmability and the required number of context switches. However, the responsibility for performing error handling and the benefits derived from *Schleipfer*'s ServOS kernel are not analogous to generating a special purpose operating system.

Similarly, the Abstract of *Schleipfer* lacks any teaching or suggestion about how the set of components of a special-purpose operating system is generated. The Abstract states:

For distributed computer systems consisting of dedicated user and server machines we investigate the problem of the best operating system (OS) support to server modules loaded on server machines. This paper argues in favor of a special-purpose OS kernel and describes the ServOS system, which contains such a kernel. Special attention is given to those aspects that contrast the ServOS kernel against its main competitors, general-purpose distributed operating system (DOS) kernels. The differences are in two areas: First, the

ServOS kernel takes simpler solutions where problems are easier to solve on server machines. Second, it gives the server modules a higher-level OS support.

Even though the Abstract of *Schleipfer* mentions a special purpose OS kernel and general-purpose DOS kernels, **there is no teaching or suggestion that the set of components of a special purpose operating system are generated by removing one or more features of a general purpose operating system.**

Nilsen also does not disclose, teach, or suggest the above-bolded features of Claim 16. The Office Action acknowledges that *Nilsen* “does not explicitly teach the special purpose operating system and the general purpose operating system as claimed” (see page 5). Consequently, since the Office Action acknowledges that *Nilsen* fails to teach or suggest a special purpose operating system, *Nilsen* cannot possibly show the above-bolded features of Claim 16.

Since *Schleipfer* and *Nilsen* individually do not show the above-bolded features of Claim 16, it follows that the combination of *Schleipfer* and *Nilsen* also fails to disclose, teach, or suggest the above-bolded features of Claim 16. Consequently, it is respectfully submitted that Claim 16 is patentable over the cited art and is in condition for allowance.

CLAIM 1 IS PATENTABLE OVER THE CITED ART

Claim 1 has been amended to include the subject matter of dependent Claim 7.

Amended Claim 1 recites:

A database appliance, comprising:
a database server;
a special purpose operating system having a set of components that include some, but not all, components of a general purpose operating system, whose configuration is dictated based on a said set of services required by the database server; and
**a self-configuration module that is capable of performing the steps of:
detecting an environment in which the database appliance is being used; and
configuring the database appliance based upon the detected environment (emphasis added).**

It is respectfully submitted that at least the above-bolded portion of amended Claim 1 is not disclosed, taught, or suggested by *Nilsen* or *Schleipfer*, either individually or in combination.

The portion of *Nilsen* cited to show the above-bolded features of amended Claim 1 (Col. 3, lines 60-65) merely states, *in toto*:

The controller assigns database servers based on the type of request, the load on each of the servers, and priority information. The controller 132 also maintains a record of information about the type of request, and the start and end times for that logging request.

In order to teach or suggest amended Claim 1, the cited portion of *Nilsen* would at a minimum need to discuss the concepts of detecting an environment and configuring a database appliance. However, the cited portion of *Nilsen* fails to discuss either of these concepts. As a result, the cited portion of *Nilsen* cannot possibly show the above-bolded features. If the Office Action disagrees, the Office is respectfully requested to particularly identify where these concepts are discussed in *Nilsen*.

To further illustrate the deficiencies of *Nilsen*, it is noted that a database appliance, according to amended Claim 1, comprises a (1) database server, (2) a special purpose operating system, and (3) a self-configuration module. The cited sections of *Nilsen* only discuss a database server and the controller 132 that manages communication between workstations and one or more database servers. As discussed earlier, the cited portions of *Nilsen* fail to even show that the controller 132 configures the database server (as previously alleged). Therefore, as (1) controller 132 does not detect an environment and (2) controller 132 does not configure a database server, much less a database appliance that comprises a special purpose operating system, *Nilsen* cannot show the above-bolded features of amended Claim 1.

Since *Schleipfer* and *Nilsen* individually do not show the above-bolded features of amended Claim 1, it follows that the combination of *Schleipfer* and *Nilsen* also fails to disclose, teach, or suggest the above-bolded features of amended Claim 1. Consequently, it is respectfully submitted that amended Claim 1 is patentable over the cited art and is in condition for allowance.

IT WOULD NOT HAVE BEEN OBVIOUS TO COMBINE THE REFERENCES

Furthermore, the Office Action alleged that

[i]t would have been obvious to a person of ordinary skill in the art at the time of the invention to combine *Schleipfer* and *Nilsen* to increase the ease and

efficiency of the configuration management task in a distributed computer systems [sic]. The ServOS kernel of *Schleipfer* takes simpler solutions where problems are easier to solve on server machines and it further gives the server modules a higher-level OS support (see page 12; *Schleipfer*).

The Applicants respectfully disagree. MPEP 706.02(j) states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some **suggestion or motivation**, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, **to modify the reference or to combine** reference teachings. Second, there must be a **reasonable expectation of success**. Finally, the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure (emphasis added).

Thus, there are three requirements to establish a *prima facie* case of obviousness.

To the first requirement, there is no suggestion or motivation to modify either reference or to combine the reference teachings. *Schleipfer* discusses the benefits of a specialized server kernel, whereas *Nilsen* discusses a distributed database application for logging large volumes of data and balancing workload. Because a server kernel is an integral part of an operating system and because *Nilsen* fails to mention anything relating to an “operating system”, it would be impossible to combine the ServOS kernel of *Schleipfer* with any portion of *Nilsen*. Therefore, it would not be obvious to combine *Schleipfer* and *Nilsen*.

To the second requirement, there is no reasonable expectation of success. One might argue that the ServOS of *Schleipfer* may be combined with the controller 132 of *Nilsen*. However, a kernel is specific and integral to an operating system and the controller 132 of *Nilsen* is merely an application program. Because the ServOS of *Schleipfer* can not be combined with anything in *Nilsen*, there is no reasonable expectation of success of combining the references.

To the third requirement, the references when combined do not teach or suggest all the claim limitations. As to Claim 16, it has been shown above that neither *Nilsen* nor *Schleipfer* teaches or suggests removing one or more features of any computing entity, much less “removing one or more features of a general purpose operating system” as recited in amended Claim 16. As to Claim 1, it has also been shown above that neither *Nilsen* nor *Schleipfer* teaches or suggests “detecting an environment in which the database appliance is

being used; and configuring the database appliance based upon the detected environment” as recited in amended Claim 1.

CLAIMS 2-11, 17-26, 31, AND 33 ARE PATENTABLE OVER THE CITED ART

Claims 2-6, 8-11, 17-26, 31, and 33 are dependent claims, each of which depends (directly or indirectly) on one of the claims discussed above. Each of Claims 2-6, 8-11, 17-26, 31, and 33 is therefore allowable for the reasons given above for the claim on which it depends.

In addition, each of Claims 2-6, 8-11, 17-26, 31, and 33 introduces one or more additional limitations that independently render it patentable. For example, Claim 17 features the element of “wherein the database server was generated from another database server by modifying the code of the other database server to optimize the code for execution on said database appliance.” The portion of *Nilsen* cited to show this element (Col. 3, lines 60-65) merely states, *in toto*:

The controller assigns database servers based on the type of request, the load on each of the servers, and priority information. The controller 132 also maintains a record of information about the type of request, and the start and end times for that logging request.

The above-cited portion of *Nilsen* lacks any discussion of generating a database server; consequently, the above-cited portion of *Nilsen* cannot possibly show the features of Claim 17 asserted by the Office Action.

As another example, Claims 3 and 18 each feature the element of “wherein the hardware for said database appliance is selected and configured to optimize performance of one or more services to be performed by the database server.” The portion of *Nilsen* cited to show this element (Col. 3, lines 60-65) merely states, *in toto*:

The controller assigns database servers based on the type of request, the load on each of the servers, and priority information. The controller 132 also maintains a record of information about the type of request, and the start and end times for that logging request.

The above-cited portion of *Nilsen* lacks any discussion of selecting or configuring the hardware of a database appliance; consequently, the above-cited portion of *Nilsen* cannot possibly show the features of Claims 3 and 18 asserted by the Office Action.

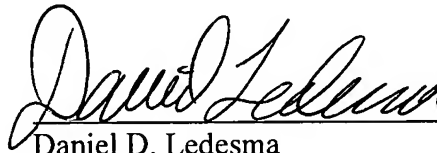
CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested. If there are any additional charges, please charge them to Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

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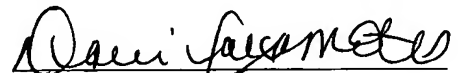
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on August 3, 2006

by



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